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10/695,191	10/28/2003	Stephen E. Trenchard	APWR-P002US	4284

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EXAMINER

HAN, JASON

ART UNIT PAPER NUMBER

2875

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/695,191

Applicant(s)

TRENCHARD ET AL.

Examiner

Jason M. Han

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 February 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 and 30-47 is/are pending in the application.
- 4a) Of the above claim(s) 47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 30-41 and 45 is/are rejected.
- 7) ☒ Claim(s) 42-44 and 46 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to Claims 1-9 and 11-14 have been considered but are moot in view of the new ground(s) of rejection.

### ***Allowable Subject Matter***

2. The indicated allowability of Claim 10 is withdrawn in view of the newly discovered reference(s) to Sasaki (U.S. Patent 5769532). Rejections based on the newly cited reference(s) follow.

### ***Terminal Disclaimer***

3. The terminal disclaimer filed on February 16, 2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 11/034,327 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Election/Restrictions***

4. Newly submitted Claim 47 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The subject matter is concerned with a differing embodiment of the invention, as addressed in Figures 22-23, and is a separate area of consideration with respect to electrical connection rather than the optical, thermal configuration as defined by the previous claims.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for

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prosecution on the merits. Accordingly, Claim 47 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Objections***

5. Claim 47 is objected to because of the following informalities: "410" is not consistent with the rest of the claim language and should be deleted to avoid confusion. Appropriate correction is required.

6. Claim 47 is further objected to because of the following informalities: Typographical error - "a threaded a screw plug shell". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claim 30 is rejected under 35 U.S.C. 102(e) as being anticipated by Verdes et al. (U.S. Patent 6425678).

Verdes discloses a lighting device including:

- A plurality of LEDs [Figure 3: (31)] disposed in a radial array about a vertical axis;

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- A central member [Figure 3: (35)] having each LED mounted on a vertical surface thereof, whereby the central member is made of a thermally conductive material to conduct heat away from the LEDs [Column 3, Lines 51-55]; and
- A hollow member [Figure 3: (11)] having a dentated surface with a random pattern of microfaceted angles on the surface, wherein the microfaceted angles diffuse the light emitted from the LEDs.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 5, 7-8, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (U.S. Patent 5769532) in view of Verdes et al. (U.S. Patent 6425678).

9. With regards to Claim 1, Sasaki discloses a lighting device including:

- A plurality of LEDs [Figure 1: (1)] disposed in a radial array about a vertical axis;
- A central member [Figure 1: (2, 3, 33)] having each LED mounted on a vertical surface thereof [Figure 1: (2)], wherein the central member has a centralized right angle prism with a square horizontal cross-section [Figure 3: (3)]; and

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- A hollow member [Figure 1: (4)] having a dentated surface [Figure 3: (41)], wherein the dentated surface surrounds the LEDs to diffuse the light emitted from the LEDs.

Sasaki does not specifically teach the central member being made of a thermally conductive material to conduct heat away from the LEDs.

Verdes teaches a central member [Figure 3: (35)] having LEDs [Figure 3: (31)] mounted on a vertical surface thereof, whereby the central member is made of a thermally conductive material to conduct heat away from the LEDs [Column 3, Lines 51-55].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Sasaki, specifically the substrate (2) which obviously conducts some degree of heat away from the LEDs, to incorporate the thermally conductive material of Verdes in order to ensure efficiency for the LEDs, which are commonly known to be affected by heat.

10. With regards to Claim 5, Sasaki in view of Verdes discloses the claimed invention as cited above, but does not specifically teach the LEDs having a driving current of about 1-5 Watts.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the LEDs with a driving current of about 1-5 Watts, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. In this case, one may want to provide desired

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illumination intensity and ensure appropriate levels of power consumption and heat generation for said device, thus appeasing aesthetic and safety concerns. It is also commonly known within the art to have 1W LEDs (i.e., Luxeon<sup>®</sup> LEDs).

11. With regards to Claim 7, Sasaki in view of Verdes discloses the claimed invention as cited above. In addition, Verdes teaches the central member being made of metal [Column 3, Lines 51-55].

12. With regards to Claim 8, Sasaki in view of Verdes discloses the claimed invention as cited above. In addition, Verdes teaches the central member being in contact with a thermally conductive element [Figure 3: (18)], whereby a portion of the thermally conductive element is in contact with the air outside of the lighting device [Column 3, Lines 16-19].

13. With regard to Claims 11-12, Sasaki in view of Verdes discloses the claimed invention as cited above, but does not specifically teach the hollow member being made of an optically transparent, heat resistant material (re: Claim 11), nor teaches the hollow member being made of glass (re: Claim 12).

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the hollow member out of an optically transparent, heat resistant material or out of glass, since it has been held to be within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416. In this case, one would want to make the hollow member out of a transparent member (e.g., glass) so that the

illumination may efficiently exit the lighting device, as well as a heat resistant material to prevent accidental burns when touched or for repairs/replacements.

14. With regards to Claim 13, Sasaki in view of Verdes discloses the claimed invention as cited above. In addition, both Sasaki [Figure 1: (21a, 21b); Column 2, Lines 60-65] and Verdes [Figure 3: (14-16, 18); Column 4, Lines 43-45] teach a light socket base electrically connected to the LEDs.

15. Claims 2 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (U.S. Patent 5769532) in view of Verdes et al. (U.S. Patent 6425678) as applied to Claim 1 above, and further in view of Heenan et al. (U.S. Patent 3221162).

Sasaki in view of Verdes discloses the claimed invention as cited above, but does not specifically teach a curved optical lens disposed about the vertical axis surrounding the hollowing member, wherein the lens converges beams of light emanating from the hollow member in all horizontal directions (re: Claim 2), nor teaches the lighting device being designed to fit within a Fresnel lens of a navigational light (re: Claim 14).

Heenan teaches a marine navigational light, wherein a lighting device [Figure 1: (20)] is surrounded by a hollow member [Figure 1: (30) – Fresnel lens] that converges the beams of light emanating therefrom in all horizontal directions, which is then fitted within a Fresnel lens [Figure 1: (50)].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Sasaki in view of Verdes to incorporate the multiple Fresnel lenses of Heenan to optically affect the illumination in a desired manner



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for navigational purposes, whereby it may be "desirable to provide not only an omnidirectional visual signal, but a highly directional beamed signal of relatively high intensity in at least one, and often more than one, specific azimuth in addition to the omnidirectional signal" [Column 1, Lines 43-47].

16. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (U.S. Patent 5769532) in view of Verdes et al. (U.S. Patent 6425678) as applied to Claim 1 above, and further in view of Ferng (U.S. Patent 5237490).

Sasaki in view of Verdes discloses the claimed invention as cited above, but does not specifically teach the lighting device having twelve or less LEDs.

Ferng teaches a lighting device having twelve light emitting diodes [Figure 1; (42)].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Sasaki in view of Verdes to incorporate twelve or less LEDs, as taught by Ferng, in order to provide a desired illumination intensity and ensure appropriate levels of power consumption and heat generation for said device, thus appeasing aesthetic and safety concerns.

17. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (U.S. Patent 5769532) in view of Verdes et al. (U.S. Patent 6425678) as applied to Claim 1 above, and further in view of Abtahi et al. (U.S. Patent 5890794).

Sasaki in view of Verdes discloses the claimed invention as cited above, but does not specifically teach the lighting device having four LEDs spaced ninety degrees

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apart in a common horizontal plane (re: Claim 4), nor the LEDs being enclosed in an airtight enclosure (re: Claim 6).

Abtahi teaches a lighting device having four LEDs spaced ninety degrees apart in a common horizontal plane [Figure 3: (18)], and the LEDs being enclosed within an airtight enclosure [Column 3, Lines 10-15; Column 5, Line 65 – Column 6, Line 15].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Sasaki in view of Verdes to incorporate the four LEDs spaced ninety degrees apart within an airtight enclosure, as taught by Abtahi, so as to ensure appropriate illumination all around said device and to prevent moisture or other contaminants of the ambient air from entering the device, thus appeasing aesthetic and safety concerns.

18. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (U.S. Patent 5769532) in view of Verdes et al. (U.S. Patent 6425678) as applied to Claim 1 above, and further in view of Hochstein (U.S. Patent 5857767).

Sasaki in view of Verdes discloses the claimed invention as cited above, but does not specifically teach the LEDs being secured to the central member using a thermally conductive adhesive.

Hochstein teaches “adhesively securing light emitting diodes to the circuit traces with an electrically and thermally conductive adhesive.” [Column 3, Lines 31-33]

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Sasaki in view of Verdes to incorporate the

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thermally conductive adhesive of Hochstein to ensure appropriate and effective heat transfer from the LEDs to the central member, thus ensuring efficiency for said LEDs.

19. Claims 30 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (U.S. Patent 5769532) in view of Verdes et al. (U.S. Patent 6425678).

Sasaki discloses a lighting device including:

- A plurality of LEDs [Figure 1: (1)] disposed in a radial array about a vertical axis;
- A central member [Figure 1: (2, 3, 33)] having each LED mounted on a vertical surface thereof [Figure 1: (2)], wherein the central member has a centralized right angle prism with a square horizontal cross-section [Figure 3: (3)]; and
- A hollow member [Figure 1: (4)] having a dentated surface [Figure 3: (41)], wherein the dentated surface surrounds the LEDs to diffuse the light emitted from the LEDs.

Sasaki does not specifically teach the central member being made of a thermally conductive material to conduct heat away from the LEDs, nor the dentated surface having a random pattern of microfaceted angles on the surface.

Verdes teaches a central member [Figure 3: (35)] having LEDs [Figure 3: (31)] mounted on a vertical surface thereof, whereby the central member is made of a thermally conductive material to conduct heat away from the LEDs [Column 3, Lines 51-55]; and further teaches a hollow member [Figure 3: (11)] having a dentated surface

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with a random pattern of microfaceted angles on the surface, wherein the microfaceted angles diffuse the light emitted from the LEDs.

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Sasaki, specifically the substrate (2) which obviously conducts some degree of heat away from the LEDs, to incorporate the thermally conductive material of Verdes in order to ensure efficiency for the LEDs, which are commonly known to be affected by heat.

It also would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Sasaki to incorporate the random pattern of microfaceted angles on the dentated surface, in order to provide a simple diffusion means that is easily manufacturable.

20. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verdes et al. (U.S. Patent 6425678) as applied to Claim 30 above, and further in view of Abtahi et al. (U.S. Patent 5890794).

Verdes discloses the claimed invention as cited above, but does not specifically teach the lighting device having four LEDs spaced ninety degrees apart in a common horizontal plane.

Abtahi teaches a lighting device having four LEDs spaced ninety degrees apart in a common horizontal plane [Figure 3: (18)], and the LEDs being enclosed within an airtight enclosure [Column 3, Lines 10-15; Column 5, Line 65 – Column 6, Line 15].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Verdes to incorporate the four LEDs spaced

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ninety degrees apart within an airtight enclosure, as taught by Abtahi, so as to ensure appropriate illumination all around said device and to prevent moisture or other contaminants of the ambient air from entering the device, thus appeasing aesthetic and safety concerns.

21. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verdes et al. (U.S. Patent 6425678) as applied to Claim 30 above, and further in view of Taylor (U.S. Patent 6626557).

Verdes discloses the claimed invention as cited above, but does not specifically teach the dentated surface of the hollow member being sandblasted.

Taylor teaches, "To facilitate the diffusion of light, the plastic may be admixed with a fibrous substance or sand blasted to give a foggy appearance" [Column 3, Lines 15-18].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Verdes to incorporate the sand blasted surface of Taylor in order to further facilitate diffusion of the light.

22. Claims 34-35, 40-41, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki (U.S. Patent 5769532) in view of Verdes et al. (U.S. Patent 6425678) and further in view of Heenan et al. (U.S. Patent 3221162).

23. With regard to Claims 34 and 41, Sasaki discloses a lighting device including:

- A plurality of LEDs [Figure 1: (1)] disposed in a radial array about a vertical axis;

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- A central member [Figure 1: (2, 3, 33)] having each LED mounted on a vertical surface thereof [Figure 1: (2)], wherein the central member has a centralized right angle prism with a square horizontal cross-section with four vertical surfaces [Figure 3: (3)]; and
- A hollow member [Figure 1: (4)] having a dentated surface [Figure 3: (41)] with a random pattern of microfaceted angles on the surface, wherein the microfaceted angles diffuse the light emitted from the LEDs.

Sasaki does not specifically teach the central member being made of a thermally conductive material to conduct heat away from the LEDs.

Verdes teaches a central member [Figure 3: (35)] having LEDs [Figure 3: (31)] mounted on a vertical surface thereof, whereby the central member is made of a thermally conductive material to conduct heat away from the LEDs [Column 3, Lines 51-55].

Neither Sasaki nor Verdes specifically teaches a curved optical lens disposed about the vertical axis surrounding the hollowing member, wherein the lens converges beams of light emanating from the hollow member in all horizontal directions.

Heenan teaches a marine navigational light, wherein a lighting device [Figure 1: (20)] is surrounded by a hollow member [Figure 1: (30) – Fresnel lens] that converges the beams of light emanating therefrom in all horizontal directions, which is then fitted within a Fresnel lens [Figure 1: (50)].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Sasaki, specifically the substrate (2) which

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obviously conducts some degree of heat away from the LEDs, to incorporate the thermally conductive material of Verdes in order to ensure efficiency for the LEDs, which are commonly known to be affected by heat.

It would have been further obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Sasaki in view of Verdes to incorporate the multiple Fresnel lenses of Heenan to optically affect the illumination in a desired manner for navigational purposes, whereby it may be "desirable to provide not only an omnidirectional visual signal, but a highly directional beamed signal of relatively high intensity in at least one, and often more than one, specific azimuth in addition to the omnidirectional signal" [Column 1, Lines 43-47].

24. With regards to Claim 35, Sasaki in view of Verdes and further in view of Heenan discloses the claimed invention as cited above. In addition, Heenan teaches the lens including a focal point in a horizontal plane that intersects the light source [Figure 7].

25. With regards to Claim 40, Sasaki in view of Verdes and further in view of Heenan discloses the claimed invention as cited above. In addition, Sasaki teaches the hollow member [Figure 1: (4)] being a right circular tube.

26. With regards to Claim 45, Sasaki in view of Verdes and further in view of Heenan discloses the claimed invention as cited above. In addition, Sasaki teaches the central member having a first and second circular disk [Figure 1: (2)] mounted on opposed ends of the central member transverse to the vertical axis.

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27. Claims 34-35 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verdes et al. (U.S. Patent 6425678) in view of Heenan et al. (U.S. Patent 3221162).

28. With regards to Claim 34, discloses a lighting device including:

- A plurality of LEDs [Figure 3: (31)] disposed in a radial array about a vertical axis;
- A central member [Figure 3: (35)] having each LED mounted on a vertical surface thereof, whereby the central member is made of a thermally conductive material to conduct heat away from the LEDs [Column 3, Lines 51-55]; and
- A hollow member [Figure 3: (11)] having a dentated surface with a random pattern of microfaceted angles on the surface, wherein the microfaceted angles diffuse the light emitted from the LEDs.

Verdes does not specifically teach a curved optical lens disposed about the vertical axis surrounding the hollowing member, wherein the lens converges beams of light emanating from the hollow member in all horizontal directions.

Heenan teaches a marine navigational light, wherein a lighting device [Figure 1: (20)] is surrounded by a hollow member [Figure 1: (30) – Fresnel lens] that converges the beams of light emanating therefrom in all horizontal directions, which is then fitted within a Fresnel lens [Figure 1: (50)].

It would have been further obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Verdes to incorporate the multiple Fresnel



lenses of Heenan to optically affect the illumination in a desired manner for navigational purposes, whereby it may be "desirable to provide not only an omnidirectional visual signal, but a highly directional beamed signal of relatively high intensity in at least one, and often more than one, specific azimuth in addition to the omnidirectional signal" [Column 1, Lines 43-47].

29. With regards to Claim 34, Verdes in view of Heenan discloses the claimed invention as cited above. In addition, Heenan teaches the lens including a focal point in a horizontal plane that intersects the light source [Figure 7].

30. With regards to Claim 40, Verdes in view of Heenan discloses the claimed invention as cited above. In addition, Verdes teaches the hollow member [Figure 3: (11)] being a right circular tube.

31. Claims 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Verdes et al. (U.S. Patent 6425678) in view of Heenan et al. (U.S. Patent 3221162) as applied to Claim 35 above, and further in view of Abtahi et al. (U.S. Patent 5890794).

32. With regards to Claims 36-37, Verdes in view of Heenan discloses the claimed invention as cited above, but does not specifically teach four LEDs in the radial array spaced 90 degrees apart in a common horizontal plane (re: Claim 36), or three radial arrays of LEDs, wherein each radial array has four LEDs spaced 90 degrees apart in a common horizontal plane (re: Claim 37).

Abtahi teaches a lighting device having three radial arrays of four LEDs spaced ninety degrees apart in a common horizontal plane [Figure 3: (18)], and the LEDs being

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enclosed within an airtight enclosure [Column 3, Lines 10-15; Column 5, Line 65 – Column 6, Line 15].

It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Verdes in view of Heenan to incorporate the three radial arrays of four LEDs spaced ninety degrees apart within an airtight enclosure, as taught by Abtahi, so as to ensure appropriate illumination all around said device and to prevent moisture or other contaminants of the ambient air from entering the device, thus appeasing aesthetic and safety concerns.

33. With regards to Claim 38, Verdes in view of Heenan, and further in view of Abtahi discloses the claimed invention as cited above. In addition, the light source is vertically aligned with the focal point of the optical lens [Figures 1, 7].

34. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Verdes et al. (U.S. Patent 6425678) in view of Heenan et al. (U.S. Patent 3221162) as applied to Claim 34 above, and further in view of Taylor (U.S. Patent 6626557).

Verdes in view of Heenan discloses the claimed invention as cited above, but does not specifically teach the dentated surface of the hollow member being uniformly frosted/sandblasted.

Taylor teaches, "To facilitate the diffusion of light, the plastic may be admixed with a fibrous substance or sand blasted to give a foggy appearance" [Column 3, Lines 15-18].

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It would have been obvious to one ordinarily skilled in the art at the time of invention to modify the lighting device of Verdes in view of Heenan to incorporate the frosted/sand blasted surface of Taylor in order to further facilitate diffusion of the light.

***Allowable Subject Matter***

35. Claims 42-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

36. The following is a statement of reasons for the indication of allowable subject matter: With regard to Dependent Claim 42, the Applicant has sufficiently claimed and defined the central member to include three substantially identical right angle prisms with substantially identical square horizontal cross-sections with four vertical surfaces, whereby the prior art of record fails to teach or suggest the combination of all structural elements claimed.

37. Claim 46 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

38. The following is a statement of reasons for the indication of allowable subject matter: The Applicant has sufficiently claimed and defined the first end of the hollow member being mounted in a first groove in the first circular disk and a second opposed end of the hollow member being mounted in a second groove in the second circular disk, whereby the prior art of record fails to teach or suggest the combination of all structural elements claimed.

**Conclusion**

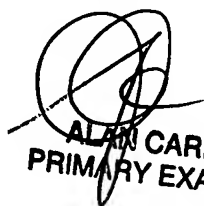
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason M Han  
Examiner  
Art Unit 2875

JMH (4/17/2006)

  
ALAN CARIASO  
PRIMARY EXAMINER